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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/067,148	05/26/1993	LUC MONTAGNIER	3495.000404	5174

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EXAMINER	
PARKIN, JEFFREY S	

ART UNIT	PAPER NUMBER
1648	

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/067,148	MONTAGNIER ET AL.	
	Examiner	Art Unit	
	Jeffrey S. Parkin, Ph.D.	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-31,39,40 and 45-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-31, 39, 40, and 45-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Office Action

Status of the Claims

Acknowledgement is hereby made of receipt and entry of the response filed 18 May, 2004. No claim amendments accompanied the communication. Claims 29-31, 39, 40, and 45-49 are pending in the instant application.

35 U.S.C. § 101

The following is a quotation of 35 U.S.C. § 101 which reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.

Claims 29-31 stand rejected under 35 U.S.C. § 101 because the claimed invention is not supported by a well-established utility. The claims are directed toward **immunological complexes** comprising a purified HIV-1 antigen (e.g., p12 or p18) and antibody against said antigen. As previously set forth, **the disclosure fails to set forth a well-established utility for the claimed immune complexes.** In fact, the disclosure does not provide any utility at all for the claimed immune complexes. **The disclosure does not describe their preparation, isolation, and utilization in any meaningful assay or protocol.** The only reference to immunocomplexes in the disclosure occurs in the context of an immunoprecipitation experiment that was utilized to identify labeled viral proteins (i.e., p25). However, **the immune complexes formed in this reaction are chemical end-products that result from antigen-antibody binding interactions.** These complexes are generally subject to SDS-PAGE analysis to identify the precipitated protein of interest. **The immune**

complexes themselves serve no further purpose. Thus, it is not readily manifest what type of utility resides in the complexes themselves.

One skilled in the infectious diseases art frequently utilizes antigens to capture pathogen-specific antibodies, or antibodies to capture pathogen-specific antigens. However, one skilled in the infectious diseases art would not normally isolate said immune complexes and utilize them further in some sort of assay or protocol. While there are anecdotal reports in the literature of investigators isolating and purifying immunological complexes, in each situation the immune complexes employed served a specific purpose or utility. For instance, the antibodies were used to mask an immunodominant cell surface epitope to allow the generation of antisera to other epitopes. However, it should be noted that no such description can be found in the present specification. Thus, the skilled artisan upon perusal of the disclosure and a review of the prior art, would reasonably conclude that the claimed invention lacks a well-established utility.

Response to Arguments

Applicants traverse and submit that the claimed invention has a well-established utility and can be employed in the generation of immune responses. Applicants argument is not persuasive. A "well-established" utility is specific, substantial, and credible. Moreover, such a utility is well-known, immediately apparent, or implied by the specification's disclosure of the properties of a material, alone or taken with the knowledge of one skilled in the art. A generic utility that is applied to all the members of class does not constitute a "well-established utility" or a "specific utility". A **"specific utility" is specific to the claimed invention, not a broad class.** The generic statement that said immune complexes

can be utilized in an immune response is insufficient.

Applicants also proffer three exhibits in support of their position (Nishi, 1970; Higgins, 1980; Eager, 1983). These references fail to establish a credible utility for the claimed invention. All of the references relied upon employed different products (e.g., **acid-washed** antigen-antibody precipitate, **agarose-immobilized** immune complexes comprising **tissue extracts** and **preabsorbed antiserum, agarose-immobilized** immune complexes comprising patient antiserum and serum α-2-marcroglobulin (α_2M)) from the currently claimed invention. One of the cruxes of the rejection is that the specification fails to disclose any further manipulative steps involving the claimed immune complexes. The claimed immune complexes simply represent intermediates that are used to detect the viral antigen or viral-specific antibodies. However, **the claims are not directed to, nor does the disclosure teach or describe, the preparation of agarose-immobilized immune complexes or acid-washed immune complexes that are suitable for preparing HIV-1-specific immunological reagents.** In fact, Higgins (1980) reported that solution-precipitated ICs were not effective at generating antisera. Thus they attempted to use agarose-immobilized ICs. The reason they pursued this approach was because they did not have a purified antigen. Applicants are reminded that the claimed immune complexes are directed toward a purified antigen.

The disclosure as filed clearly fails to provide any evidence suggesting that the claimed immune complexes comprising a purified antigen and antibody serve any useful function. **The only description of immune complexes in the specification is in the context of their utilization in ELISA or RIPA assays. In these assays the immune complexes form an intermediate that allows the skilled artisan to detect viral-specific antibodies.** The antigen may be bound to an ELISA plate or labeled and used in an immunoprecipitation assay. When employed in an ELISA assay a secondary labeled antibody is

generally added and an enzymatic reaction performed to detect the resultant complex. In a RIPA assay the resultant products are then submitted to SDS-PAGE analysis to identify the antigen of interest. Thus, in both examples, the immune complexes serve as intermediates in the detection process. However, the disclosure does not provide any further description of how these immune complexes are to be utilized other than as intermediates in a detection or diagnostic protocol. **The disclosure fails to describe the preparation of acid-washed or agarose-immobilized immune complexes and the preparation of immunogenic compositions comprising said products.** Moreover, as previously argued, if the skilled artisan was in possession of the purified antigen, an immunogenic composition comprising the antigen and adjuvant would be utilized to generate viral-specific antisera, not an immune complex comprising the antigen and antibody. Accordingly the rejection is proper and hereby maintained.

35 U.S.C. § 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 29-31 also stand rejected under 35 U.S.C. § 112, first paragraph. Specifically, since the claimed invention is not supported by either a well-asserted utility or a well-established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claims 29-31, 39, 40, and 45-49 stand rejected under 35 U.S.C. §

112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. *In re Rasmussen*, 650 F.2d 1212, 211 U.S.P.Q. 323 (C.C.P.A. 1981). *In re Wertheim*, 541 F.2d 257, 191 U.S.P.Q. 90 (C.C.P.A. 1976). Claims 29-31 are drawn toward immunological complexes comprising a purified HIV-1 antigen (e.g., p12 or p18) and specific antibody. Claims 39, 40, and 45-49 are directed toward antibodies specific toward HIV-1 p12, p18, mixtures of antibodies specific for p12 and p25, mixtures of antibodies specific for p18 and p25, and mixtures of antibodies specific for p12, p15, p18, p25, p36, p42, and p80.

Applicants again traverse the rejection and submit that adequate support exists in the specification for the claimed invention. Applicants assert that the specification teaches detailed procedures for purifying the viral antigens p12, p18, p25, p15, p36, p42, and p80. It was further asserted that the specification teaches using HIV-1 proteins as immunogens for the production of antibodies. Applicants conclude that they were clearly in possession of the claimed antibodies. Concerning the immune complexes, applicants assert that that the specification teaches the preparation of immune complexes formed by patient antisera and viral extracts. It was further asserted that art-recognized methods for preparing immune complexes (i.e., immunoprecipiation) were available at the time of filing. Since patient antisera that reacted with p12, p13, p19, p42, and p80 were identified, applicants conclude that this places the claimed invention within their possession. Applicants' arguments have been duly noted but are not deemed to be persuasive for the reasons of record previously set forth.

As previously noted, the written description requirement under Section 112, first paragraph, stipulates that the claimed subject matter must be supported by an adequate written description that is

sufficient to enable anyone skilled in the art to make and use the invention. The courts have decided that the specification must demonstrate that the inventor had possession of the claimed invention as of the filing date relied upon. Although the claimed subject matter need not be described identically, nonetheless, the disclosure relied upon must convey to those skilled in the art that applicants had invented the subject matter claimed. *Ralston Purina Company* v. *Far-Mar-Co., Inc.*, 227 U.S.P.Q. 177 (C.A.F.C. 1985). *In re Wilder, et al.*, 222 U.S.P.Q. 369 (C.A.F.C. 1984). *In re Wertheim, et al.*, 191 U.S.P.Q. 90 (C.C.P.A. 1976). *In re Blaser, Germscheid,* and *Worms,* 194 U.S.P.Q. 122 (C.C.P.A. 1977). *In re Driscoll,* 195 U.S.P.Q. 434 (C.C.P.A. 1977). *Utter* v. *Hiraga,* 6 U.S.P.Q.2d 1709 (C.A.F.C. 1988).

As previously set forth, this rejection is based upon the inability of the disclosure to reasonably convey to the skilled artisan that applicants were in **possession** of the claimed HIV-1 antibodies and immunological complexes at the time of the filing date relied upon. **The specification fails to provide any demonstrative evidence that applicants had generated the claimed antibodies or immune complexes.** Moreover, the disclosure only refers to subject matter directed toward a newly isolated virus, the antigens p13, p18, and p25 (refer to disclosure, page 6). The disclosure describes the isolation, purification, and propagation of this virus, designated LAV by applicants. It was further reported that extracts containing p12, p18, and/or p25 were prepared. There was one mention of patient antibodies that displayed reactivity toward the LAV antigens p12, p18, p25, p36, p42, and p80 (refer to page 13 of the disclosure). However, **there was no indication that applicants actually contemplated generating, isolating, and characterizing LAV-specific antibodies.** Moreover, **there is no indication that applicants actually contemplated using these antibodies or immune complexes comprising said antibodies and the appropriate viral antigen.** Accordingly, the

skilled artisan would reasonably conclude that applicants were **not** in possession of the claimed invention at the time of filing. Applicants may obviate the rejection by providing scientific evidence demonstrating that the claimed antibodies and immune complexes were actually generated.

37 C.F.R. § 1.132

The declaration filed 23 January, 2003, under 37 C.F.R. § 1.132 is insufficient to overcome the rejection of the claims. Dr. Cohen asserts that one skilled in the art would be capable of following the teachings of the disclosure to prepare purified viral antigens and antibodies specific thereto. Montelaro *et al.* (1982) was also cited in support of this position. The crux of the rejection is not whether the skilled artisan is capable of purifying viral antigens and making antibodies against said antigens, but whether or not the applicants actually had possession of the claimed invention. It is well-established that an application may be enabled for a particular protocol but still lack an adequate written description of the claimed invention. Such is the case in the instant application. There is nothing in the disclosure to suggest to the skilled artisan that applicants actually prepared the claimed immune complexes or antibodies. Thus, the skilled artisan would reasonably conclude that applicants were not in possession of the claimed invention at the time of filing.

Finality of Office Action

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a). **A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL**

ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Correspondence

Any inquiry concerning this communication should be directed to Jeffrey S. Parkin, Ph.D., whose telephone number is (571) 272-0908. The examiner can normally be reached Monday through Thursday from 10:30 AM to 9:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, James C. Housel, can be reached at (571) 272-0902. Direct general status inquiries to the Technology Center 1600 receptionist at (571) 272-1600. Formal communications may be submitted through the official facsimile number which is (703) 872-9306. Hand-carried formal communications should be directed toward the customer window located in Crystal Plaza Two, 2011 South Clark Place, Arlington, VA. Applicants are directed toward the O.G. Notice for further guidance. 1280 O.G. 681. Informal communications may be submitted to the Examiner's RightFAX account at (571) 273-0908.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully,

Jeffrey S. Parkin, Ph.D.
Primary Examiner
Art Unit 1648

22 February, 2005